

Sub A3

WHAT IS CLAIMED IS:

1. An optical cable having at least one groove which is spirally provided, the each groove being substantially square in cross section and holding an optical fiber ribbon or a stack of a plurality of optical fiber ribbons within the groove, wherein an inner width and a height of side walls of the each groove are set greater than a width of the optical fiber ribbon or a diagonal length of the stack which is held into said groove and said optical fiber ribbon or said stack held into said groove is twisted lengthwise in one direction.
2. An optical cable according to claim 1, further comprising a central member and at least one spacer having said at least one groove, wherein said spacer is twisted around said central member spirally.
3. An optical cable according to claim 2, wherein said spacer is one-groove spacer having said one groove being linear lengthwise.
4. An optical cable according to claim 1, further comprising a central member, wherein said central member is a grooved spacer having said at least one groove on its surface, each groove being spiral lengthwise.
5. An optical cable according to claim 3, wherein the one-groove spacer is twisted in one direction around said central

member.

6. An optical cable according to claim 5, wherein a twisting pitch length of said optical fiber ribbons is equal to or less
5 than a twisting pitch length of said one-groove spacer.

7. An optical cable according to claim 3, wherein the one-groove spacer is twisted around said central member while reversing its direction at a given pitch length.

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8. An optical cable according to claim 7, wherein a twisting pitch length of said optical fiber ribbons is equal to or shorter than a pitch length of the one-groove spacer, said pitch length of the one-groove spacer being twice as large as the given pitch
15 length.

9. An optical cable according to claim 8, wherein the pitch length of the one-groove spacer is not integer times as large as the twisting pitch length of the optical fiber ribbons.

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para 10. An optical cable according to ^{Claim} 4, wherein the groove is a spiral groove being spirally formed in one direction on the surface of said grooved spacer.

para 25 11. An optical cable according to ^{Claim} 10, wherein a twisting pitch length of said optical fiber ribbons is equal to or less than a spiral pitch length of the groove of said grooved spacer.

purc 12. An optical cable according to claim 4, wherein the groove is an S2-shaped groove being spirally formed so as to reverse their direction at predetermined pitch length.

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Q3 13. An optical cable according to claim 12, wherein a twisting pitch length of said optical fiber ribbons is equal to or shorter than a pitch length of the grooved spacer, said pitch length of the grooved spacer begin twice as large as the predetermined

10 pitch length.

14. An optical cable according to claim 13, wherein the pitch length of the grooved spacer is not integer times as large as the twisting pitch length of the optical fiber ribbons.

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15. An optical cable according to claim 3, wherein said central member is a grooved spacer having at least one groove on its surface, each groove being spiral lengthwise and substantially square in cross section and holding an optical fiber ribbon or 20 a stack of a plurality of optical fiber ribbons within the groove.

16. An optical cable according to claim 15, wherein an inner width and a height of side walls of the each groove of the grooved spacer are set greater than a width of the optical fiber ribbon 25 or a diagonal length of the stack which is held into said groove of the grooved spacer and said optical fiber ribbon or said stack held into said groove of the grooved spacer is twisted lengthwise

in one direction.

17. An optical cable according to claim 3, wherein further comprising one-groove spacers spirally being twisted around said one-groove spacers which are twisting around said central member.

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